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Comparison of Reading Performance in Fluent and Non-Fluent Aphasia

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Introduction

Individuals with aphasia demonstrate a wide range of reading and writing deficits. One approach used to explain the nature of reading and writing impairments in aphasia is the dual-route model. This theory is based on a "modularity assumption," where domain-specific modules are parts of processes which make up complex cognitive functions (Coltheart, 2006). Depending on which modules of this system are impaired due to brain injury, and which modules are functioning, patients with aphasia will have different impairments of their reading and writing skills, and these may therefore be differentially diagnosed and treated.

However, this classification model does not necessarily take into account the specific characteristics of the reading disorder and their relationship to other aspects of language functioning. Therefore, another way of diagnosing reading problems bypasses the dual route classification system and directly relates testing performance to components in a process model. Advocates of this approach state that all theoretically relevant aspects of performance on language and cognitive measures should be considered in determining the level of impairment for each individual (Jefferies, Sage, & Lambon Ralph, 2007).

The purpose of this study was to compare reading performance in individuals with fluent and non-fluent aphasia in order to determine the types of reading deficits demonstrated and the relationship of the reading difficulties to other aspects of their overall language profiles.

Methods

Nine individuals with aphasia (four non-fluent, five fluent) participated in this study. The type and severity of aphasia was determined through performance on the Western Aphasia Battery (WAB). All participants were greater than one year post-stroke, had at least 12 years of education, and were competent in reading and writing pre-stroke.

Nineteen subtests from the *Psycholinguistic Assessments of Language Processing in Aphasia* (PALPA, Kay, Lesser, & Coltheart, 1992) were administered over two sessions. Subtests representing a wide range of language processing skills required for reading and writing were selected based on the frequency of their use.

Results

Performance was variable within and between the two groups. In general, the participants with non-fluent aphasia performed well on auditory and visual lexical/semantic decision making tasks, and had difficulty on

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phonological tasks. The non-fluent participants could repeat non-words with some success; however, none of the participants could orally read non-words. The fluent group was slightly less successful on the lexical/semantic tasks, and as a group, was highly variable on the repetition and reading of both real words and non-words.

Conclusions

Although there were some general characteristics shared by the participants in this study, they exhibited very unique qualities and performance configurations that were not captured by overall type or severity of aphasia. Theoretical and clinical implications will be discussed.

References

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